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* * * * * Welcome to STN International * * * * *

NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	AUG 09	INSPEC enhanced with 1898-1968 archive
NEWS	4	AUG 28	ADISCTI Reloaded and Enhanced
NEWS	5	AUG 30	CA(SM)/CAplus(SM) Austrian patent law changes
NEWS	6	SEP 21	CA/CAplus fields enhanced with simultaneous left and right truncation
NEWS	7	SEP 25	CA(SM)/CAplus(SM) display of CA Lexicon enhanced
NEWS	8	SEP 25	CAS REGISTRY(SM) no longer includes Concord 3D coordinates
NEWS	9	SEP 25	CAS REGISTRY(SM) updated with amino acid codes for pyrrolysine
NEWS	10	SEP 28	CEABA-VTB classification code fields reloaded with new classification scheme
NEWS	11	OCT 19	LOGOFF HOLD duration extended to 120 minutes
NEWS	12	OCT 19	E-mail format enhanced
NEWS	13	OCT 23	Option to turn off MARPAT highlighting enhancements available
NEWS	14	OCT 23	CAS Registry Number crossover limit increased to 300,000 in multiple databases
NEWS	15	OCT 23	The Derwent World Patents Index suite of databases on STN has been enhanced and reloaded
NEWS	16	OCT 30	CHEMLIST enhanced with new search and display field
NEWS	17	NOV 03	JAPIO enhanced with IPC 8 features and functionality
NEWS	18	NOV 10	CA/CAplus F-Term thesaurus enhanced
NEWS	19	NOV 10	STN Express with Discover! free maintenance release Version 8.01c now available
NEWS	20	NOV 20	CAS Registry Number crossover limit increased to 300,000 in additional databases
NEWS	21	NOV 20	CA/CAplus to MARPAT accession number crossover limit increased to 50,000
NEWS	22	DEC 01	CAS REGISTRY updated with new ambiguity codes
NEWS	23	DEC 11	CAS REGISTRY chemical nomenclature enhanced
NEWS	24	DEC 14	WPIDS/WPINDEX/WPIX manual codes updated
NEWS	25	DEC 14	GBFULL and FRFULL enhanced with IPC 8 features and functionality
NEWS	26	DEC 18	CA/CAplus pre-1967 chemical substance index entries enhanced with preparation role
NEWS	27	DEC 18	CA/CAplus patent kind codes updated
NEWS	28	DEC 18	MARPAT to CA/CAplus accession number crossover limit increased to 50,000
NEWS	29	DEC 18	MEDLINE updated in preparation for 2007 reload
NEWS	30	DEC 27	CA/CAplus enhanced with more pre-1907 records
NEWS EXPRESS	NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.		
NEWS HOURS	STN Operating Hours Plus Help Desk Availability		
NEWS LOGIN	Welcome Banner and News Items		
NEWS IPC8	For general information regarding STN implementation of IPC 8		
NEWS X25	X.25 communication option no longer available		

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 12:54:19 ON 02 JAN 2007

=> file .mymstn

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'MEDLINE' ENTERED AT 12:54:39 ON 02 JAN 2007

FILE 'AGRICOLA' ENTERED AT 12:54:39 ON 02 JAN 2007

FILE 'JICST-EPLUS' ENTERED AT 12:54:39 ON 02 JAN 2007

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FILE 'BIOTECHNO' ENTERED AT 12:54:39 ON 02 JAN 2007

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FILE 'EMBASE' ENTERED AT 12:54:39 ON 02 JAN 2007

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=> stress (w) response and coli and strain and mutant

STRESS IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=>).

=> s stress (w) response and coli and strain and mutant

L1 486 STRESS (W) RESPONSE AND COLI AND STRAIN AND MUTANT

=> s li and exogenous

L2 820 LI AND EXOGENOUS

=> s l2 and lyase

L3 2 L2 AND LYASE

=> l2 and peroxide

L2 IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=>).

=> s l2 and peroxide

L4 5 L2 AND PEROXIDE

=> d ibib abs 13 1-2 and 14 1-5
L4 IS NOT VALID HERE
For an explanation, enter "HELP DISPLAY".

=> d ibib abs 13 1-2

L3 ANSWER 1 OF 2 MEDLINE on STN
ACCESSION NUMBER: 2004519266 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15466221
TITLE: Unique and overlapping expression patterns among the
Arabidopsis 1-amino-cyclopropane-1-carboxylate synthase
gene family members.
AUTHOR: Tsuchisaka Atsunari; Theologis Athanasios
CORPORATE SOURCE: Plant Gene Expression Center, Albany, California 94710,
USA.
SOURCE: Plant physiology, (2004 Oct) Vol. 136, No. 2, pp.
2982-3000. Electronic Publication: 2004-10-01.
Journal code: 0401224. ISSN: 0032-0889.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AY680407; GENBANK-AY680408; GENBANK-AY680409;
GENBANK-AY680410; GENBANK-AY680411; GENBANK-AY680412;
GENBANK-AY680413; GENBANK-AY680414; GENBANK-AY680415;
GENBANK-AY680416; GENBANK-AY680417; GENBANK-AY680418;
GENBANK-AY680419; GENBANK-AY680420; GENBANK-AY680421;
GENBANK-AY680422; GENBANK-AY680423; GENBANK-AY680424
ENTRY MONTH: 200501
ENTRY DATE: Entered STN: 19 Oct 2004
Last Updated on STN: 4 Jan 2005
Entered Medline: 3 Jan 2005

AB 1-Aminocyclopropane-1-carboxylate synthase (ACS) catalyzes the
rate-limiting step in the ethylene biosynthetic pathway in plants. The
Arabidopsis genome encodes nine ACS polypeptides that form eight
functional (ACS2, ACS4-9, and ACS11) homodimers and one nonfunctional
(ACS1) homodimer. Transgenic Arabidopsis lines were constructed
expressing the beta-glucuronidase (GUS) and green fluorescence protein
(GFP) reporter genes from the promoter of each of the gene family members
to determine their patterns of expression during plant development. All
genes, except ACS9, are expressed in 5-d-old etiolated or light-grown
seedlings yielding distinct patterns of GUS staining. ACS9 expression is
detected later in development. Unique and overlapping expression patterns
were detected for all the family members in various organs of adult
plants. ACS11 is uniquely expressed in the trichomes of sepals and ACS1
in the replum. Overlapping expression was observed in hypocotyl, roots,
various parts of the flower (sepals, pedicle, style, etc.) and in the
stigmatic and abscission zones of the silique. Exogenous
indole-3-acetic acid (IAA) enhances the constitutive expression of ACS2,
4, 5, 6, 7, 8, and 11 in the root. Wounding of hypocotyl tissue inhibits
the constitutive expression of ACS1 and ACS5 and induces the expression of
ACS2, 4, 6, 7, 8, and 11. Inducers of ethylene production such as cold,
heat, anaerobiosis, and Li(+) ions enhance or suppress the
expression of various members of the gene family in the root of
light-grown seedlings. Examination of GUS expression in transverse
sections of cotyledons reveals that all ACS genes, except ACS9, are
expressed in the epidermis cell layer, guard cells, and vascular tissue.
Similar analysis with root tip tissue treated with IAA reveals unique and
overlapping expression patterns in the various cell types of the lateral
root cap, cell division, and cell expansion zones. IAA inducibility is
gene-specific and cell type-dependent across the root tip zone. This
limited comparative exploration of ACS gene family expression reveals
constitutive spatial and temporal expression patterns of all gene family
members throughout the growth period examined. The unique and overlapping

gene activity pattern detected reveals a combinatorial code of spatio-temporal coexpression among the various gene family members during plant development. This raises the prospect that functional ACS heterodimers may be formed in planta.

L3 ANSWER 2 OF 2 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2006:325152 BIOSIS
DOCUMENT NUMBER: PREV200600317296
TITLE: Methionine-stress: A pleiotropic approach in enhancing the efficacy of chemotherapy.
AUTHOR(S): Kokkinakis, Demetrius A. [Reprint Author]
CORPORATE SOURCE: Univ Pittsburgh, Dept Pathol, 5117 Ctr Ave, Pittsburgh, PA 15213 USA
kokkinakisdm@upmc.edu
SOURCE: Cancer Letters, (FEB 28 2006) Vol. 233, No. 2, pp. 195-207.
CODEN: CALEDQ. ISSN: 0304-3835.
DOCUMENT TYPE: Article
General Review; (Literature Review)
LANGUAGE: English
ENTRY DATE: Entered STN: 21 Jun 2006
Last Updated on STN: 21 Jun 2006

AB Malignant cells fail to utilize homocysteine (FICYS) in place of methionine (MET) and they are dependent on exogenous MET for growth. In animals, reduction of plasma MET to $< 5 \mu\text{M}$ can be induced by combined dietary restriction of MET and administration of L-methionine-alpha-deamino-gamma-lyase (methioninase). This treatment, termed L α MET-stress, inhibits the growth of brain tumor xenografts in athymic mice and enhances the efficacy of DNA alkylating chemotherapeutic agents. The response of tumors to MET-stress depends on their mutational status, however, it always involves inhibition of CDK1 and in most cases the upregulation of p21, p27, GADDs and 14-3-3 sigma in response to upregulation of TGF-beta, IRF-1, TNF-alpha, Rb and/or MDA-7 and the downregulation of PI3K, RAS and NF-kappa B. Although inhibition of the cell cycle and mitosis is not necessarily dependent on the tumor's p53 status, the expression of p21, GADD45 and apoptosis related genes (BAX, BCL-2) are regulated by wt-p53, in addition to their regulation by TGF-beta or MDA-7 in mutated p53 tumors. Mutational variability determines the mode of death (mitotic catastrophe versus apoptosis) in tumor cells subjected to MET-stress. The increase of the efficacy of alkylating agents is related to marked inhibition of O(6)-methylguanine-DNA methyltransferase (MGMT) expression, the induction of cell cycle check points and the inhibition of pro-survival pathways by MET-stress. (c) 2005 Elsevier Ireland Ltd. All rights reserved.

=> d ibib abs 14 1-5

L4 ANSWER 1 OF 5 MEDLINE on STN
ACCESSION NUMBER: 88048324 MEDLINE
DOCUMENT NUMBER: PubMed ID: 2823711
TITLE: Effect of lipid hydroperoxide on Xenopus oocytes and on neurotransmitter receptors synthesized in Xenopus oocytes injected with exogenous mRNA.
AUTHOR: Aoshima H; Anan M; Ishii H
CORPORATE SOURCE: Department of Chemistry, Faculty of Liberal Arts, Yamaguchi University, Japan.
SOURCE: Archives of biochemistry and biophysics, (1987 Nov 1) Vol. 258, No. 2, pp. 324-31.
Journal code: 0372430. ISSN: 0003-9861.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198711

ENTRY DATE: Entered STN: 5 Mar 1990
Last Updated on STN: 5 Mar 1990
Entered Medline: 27 Nov 1987

AB The effect of 13-L-hydroperoxylinoleic acid (LOOH) on both *Xenopus* oocytes and neurotransmitter receptors synthesized in the oocytes was studied by electrophysiological and ion flux measurement. Addition of LOOH to the incubation mixture of the oocytes raised the membrane potential and decreased the membrane resistance of the oocytes. These effects of LOOH on the oocytes were reversed within a few hours by incubation with frog Ringer solution. Addition of LOOH also caused an increase of Li⁺ and 45Ca²⁺ uptake into the oocytes. However, production of alkoxy radicals by the addition of FeCl₂ to the incubation mixture containing LOOH did not accelerate the damage to the oocytes by LOOH. So essential toxicity is caused possibly by an increase in the membrane permeability resulting from disturbance of the lipid bilayer arrangement, not from production of active alkoxy radicals during decomposition of LOOH. Nicotinic acetylcholine and gamma-aminobutyric acid receptors were synthesized in *Xenopus* oocytes by injecting mRNA prepared from *Electrophorus electricus* electroplax and rat brain. LOOH noncompetitively inhibited the function of these receptors and also increased the rate of desensitization of the receptors.

L4 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:910375 CAPLUS
DOCUMENT NUMBER: 138:166684
TITLE: Role of hydrogen peroxide in salicylic acid-induced stomatal closure in *Vicia faba* guard cells
AUTHOR(S): Dong, Facai; Wang, Pengtao; Zhang, Lin; Song, Chunpeng
CORPORATE SOURCE: Department of Biology, Henan University, Kaifeng, 475001, Peop. Rep. China
SOURCE: Zhiwu Shengli Xuebao (2001), 27(4), 296-302
CODEN: CWSPDA; ISSN: 0257-4829
PUBLISHER: Kexue Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Many plant pathogens can penetrate leaf tissues through stomatal opening, so narrowing stomatal apertures may be advantageous for plant defense. The evidence was provided that H₂O₂ may function as an intermediate in salicylic acid (SA) signal in guard cells by epidermal strips bioassay and laser scanning confocal microscopy. SA can induce stomatal closure with a concentration-dependent manner, and H₂O₂ has the similar effect as SA. The effect of stomatal closure induced by SA at 100 µmol/L could be reversed evidently by CAT 20 U/mL or Vc 10 mmol/L, resp., but CAT or Vc alone treatment promoted stomatal opening slightly over the control. Time course expts. of single-cell assay based on fluorescent probe DCFH showed that the generation of H₂O₂ in guard cells could be induced by exogenous (Plate I) or endogenous SA 100 µmol/L (Plate LI) by directly addition or microinjection into one guard cell of a stoma, but distilled water microinjection as control caused no changes in DCFH fluorescent (Plate LI). These results suggest that the plant infected by pathogens may close their stomata via a pathway involving H₂O₂ production, thus interfering with the continuous invasion of pathogens through the stomatal pores.

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1987:612284 CAPLUS
DOCUMENT NUMBER: 107:212284
TITLE: Effect of lipid hydroperoxide on *Xenopus* oocytes and on neurotransmitter receptors synthesized by *Xenopus* oocytes injected with exogenous mRNA
AUTHOR(S): Aoshima, Hitoshi; Anan, Makoto; Ishii, Hisashi

CORPORATE SOURCE: Fac. Liberal Arts, Yamaguchi Univ., Yamaguchi, 753, Japan

SOURCE: Archives of Biochemistry and Biophysics (1987), 258(2), 324-31
CODEN: ABBIA4; ISSN: 0003-9861

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The effect of 13-L-hydroperoxylinoleic acid (LOOH) on both *Xenopus* oocytes and neurotransmitter receptors synthesized in the oocytes was studied by electrophysiol. and ion flux measurement. Addition of LOOH to the incubation mixture of the oocytes raised the membrane potential and decreased the membrane resistance of the oocytes. These effects of LOOH on the oocytes were reversed within a few hours by incubation with frog Ringer solution. Addition of LOOH also caused an increase of Li^+ and $^{45}\text{Ca}^{2+}$ uptake into the oocytes. However, production of alkoxy radicals by the addition of FeCl_2 to the incubation mixture containing LOOH did not accelerate the damage

to the oocytes by LOOH. So essential toxicity is caused possibly by an increase in the membrane permeability resulting from disturbance of the lipid bilayer arrangement, not from production of active alkoxy radicals during decomposition of LOOH. Nicotinic acetylcholine and GABA receptors were synthesized in *Xenopus* oocytes by injecting mRNA prepared from *Electrophorus electricus* electroplax and rat brain. LOOH non-competitively inhibited the function of these receptors and also increased the rate of desensitization of the receptors.

L4 ANSWER 4 OF 5 BIOTECHNO COPYRIGHT 2007 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1995:25250710 BIOTECHNO

TITLE: The oxidation of hemocyanin. Kinetics, reaction mechanism and characterization of Met-hemocyanin product

AUTHOR: Beltramini M.; Bubacco L.; Casella L.; Alzuet G.; Gullotti M.; Salvato B.

CORPORATE SOURCE: Department of Biology, Via Trieste 75, I-35131 Padova, Italy.

SOURCE: European Journal of Biochemistry, (1995), 232/1 (98-105)

CODEN: EJBCAI ISSN: 0014-2956

DOCUMENT TYPE: Journal; Article

COUNTRY: Germany, Federal Republic of

LANGUAGE: English

SUMMARY LANGUAGE: English

AN 1995:25250710 BIOTECHNO

AB The reaction that gives met-hemocyanin from *Octopus vulgaris* oxy-hemocyanin has been reinvestigated under several experimental conditions. Various anions including azide, fluoride and acetate have been found to promote this reaction. Kinetic data indicate that the reaction mechanism is different from that currently accepted involving a peroxide displacement of bound dioxygen through an associative chemistry on an open axial position of the copper ions (Hepp, A. F., Himmelwright, R. S., Eickman, N. C. and Solomon, E. I. (1979) *Biochem. Biophys. Res. Commun.* 89, 1050-1057; Solomon, E. I. in *Copper proteins* (Spiro, T. G., ed.) pp. 43-108, J. Wiley, New York!). Our study suggests that the protonated form of the anion is likely to be the species reacting with the oxygenated form of the protein. Furthermore, it is also proposed that protonation of bound dioxygen generates an intermediate hydroperoxo-dicopper(II) complex to which the exogenous anion is also bound. This intermediate is not accumulated and precedes the release of hydrogen peroxide by reaction with water. Upon dialysis it leads to the met-hemocyanin form. The structure of this dinuclear copper(II) derivative contains a di- μ -hydroxo bridge but there is evidence from optical and circular dichroism spectra for partial protonation of these bridges at low pH. As a consequence, while one azide molecule binds in the bridging mode to

met-hemocyanin with low affinity ($K = 30 \text{ M}^{-1}$) at pH 7.0, it binds with much higher affinity at pH 5.5 ($K = 1500 \text{ M}^{-1}$), where a second azide ligand also binds in the terminal mode ($K = 20 \text{ M}^{-1}$). The coordination mode of the azide ligands is deduced from the optical and circular dichroism spectra of the protein complexes.

L4 ANSWER 5 OF 5 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN

ACCESSION NUMBER: 95250500 EMBASE

DOCUMENT NUMBER: 1995250500

TITLE: The oxidation of hemocyanin. Kinetics, reaction mechanism and characterization of Met-hemocyanin product.

AUTHOR: Beltramini M.; Bubacco L.; Casella L.; Alzuet G.; Gullotti M.; Salvato B.

CORPORATE SOURCE: Department of Biology, Via Trieste 75, I-35131 Padova, Italy

SOURCE: European Journal of Biochemistry, (1995) Vol. 232, No. 1, pp. 98-105.

ISSN: 0014-2956 CODEN: EJBICA

COUNTRY: Germany

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 12 Sep 1995

Last Updated on STN: 12 Sep 1995

AB The reaction that gives met-hemocyanin from *Octopus vulgaris* oxy-hemocyanin has been reinvestigated under several experimental conditions. Various anions including azide, fluoride and acetate have been found to promote this reaction. Kinetic data indicate that the reaction mechanism is different from that currently accepted involving a peroxide displacement of bound dioxygen through an associative chemistry on an open axial position of the copper ions [Hepp, A. F., Himmelwright, R. S., Eickman, N. C. and Solomon, E. I. (1979) *Biochem. Biophys. Res. Commun.* 89, 1050-1057; Solomon, E. I. in *Copper proteins* (Spiro, T. G., ed.) pp. 43-108, J. Wiley, New York]. Our study suggests that the protonated form of the anion is likely to be the species reacting with the oxygenated form of the protein. Furthermore, it is also proposed that protonation of bound dioxygen generates an intermediate hydroperoxo-dicopper(II) complex to which the exogenous anion is also bound. This intermediate is not accumulated and precedes the release of hydrogen peroxide by reaction with water. Upon dialysis it leads to the met-hemocyanin form. The structure of this dinuclear copper(II) derivative contains a di- μ -hydroxo bridge but there is evidence from optical and circular dichroism spectra for partial protonation of these bridges at low pH. As a consequence, while one azide molecule binds in the bridging mode to met-hemocyanin with low affinity ($K = 30 \text{ M}^{-1}$) at pH 7.0, it binds with much higher affinity at pH 5.5 ($K = 1500 \text{ M}^{-1}$), where a second azide ligand also binds in the terminal mode ($K = 20 \text{ M}^{-1}$). The coordination mode of the azide ligands is deduced from the optical and circular dichroism spectra of the protein complexes.

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